Docket No.: 02598/000J593-US0

REMARKS

I. Status of the Claims

Claims 1-25 are pending.

Claims 1-5 and 21 stand rejected.

Claim 1 has been amended.

Claim 3 has been canceled.

No new matter has been added.

II. Objections to the Specification and Claims

The Examiner has objected to the specification as containing informalities relating to the molding at the rear surface of the PCB. Applicant has amended the specification to correct these informalities.

Additionally, the Examiner has objected to claim 1 as reciting that the image chip is seated in a hollow area formed on a surface of the PCB which the Examiner alleges is incorrect. The Examiner states that the image chip is actually seated in the epoxy resin and not the hollow area of the PCB. Applicant respectfully submits that claim 1 has been amended to clarify that the image chip is seated "in a hollow area formed in a predetermined portion of the PCB" wherein the epoxy resin is molded for the mounting of the image chip. The image chip is thus seated on the epoxy resin within the hollow area of the PCB. This amendment is not made for reasons related to patentability but for purposes of clarification. The Examiner also objected to Claim 3 which has since been cancelled.

Accordingly, Applicant respectfully requests that the above objections be withdrawn.

III. Rejections Under 35 U.S.C. § 103(a)

Claims 1-5 and 21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 01-095553A to Kitayama ("Kitayama") in view of U.S. Pat. No. 5,442,134 to Miyazaki ("Miyazaki"). The Examiner states that Kitayama shows an image sensor having all of the features of the claimed invention except for the epoxy resin, which is shown by Miyazaki. Applicants respectfully traverse the Examiner's rejection and reconsideration is respectfully requested.

In particular, the Examiner specifically states that Kitamaya discloses a PCB (7) that is connected to a second conductive bump, which is not numbered, as in the Applicant's claimed invention. However, Applicant submits that reference numeral 7 in Figure 2 of Kitamaya which the Examiner has pointed to as referencing a PCB is not in fact a PCB. Instead, reference numeral 7 of Figure 2 of Kitamaya clearly points to a metallic component as evidenced by the fact that the cross section of the material of numeral 7 is illustrated utilizing shading typically indicating a metallic conductor similar to the first and second bumps. Thus, reference numeral 7 could not refer to a PCB since a PCB is composed of plastic and typically not shaded in a fashion identical to a metallic component. (See Figure 4 of the present application for identification of a PCB)

In fact, reference numeral 7 in Figure 2 of Kitamaya refers to a component, such as a metallic lead, that appears to possibly connect the chip package to a PCB, with the PCB not being shown. Kitamaya's arrangement utilizing conventional leads which on one end are connected to a chip package and for which the other end is inserted into a PCB to connect a chip package to a PCB are disadvantageous because the overall image sensor module is relatively large, taking up valuable space as it would sit up above the PCB. In contrast, Applicant's present invention allows the image chip to be seated "in a hollow area formed in a predetermined portion of the PCB" where the epoxy resin is molded for mounting the image chip. The image chip is thus seated on the epoxy resin within the hollow area of the PCB resulting in an overall more miniaturized or compact arrangement for the image sensor module which takes up less of the valuable space. Neither Kitamaya nor Miyazaki, alone or in combination, disclose any of these features.

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As claims 2-5 and 21 depend either directly or indirectly from claim 1, Applicant submits that those claims are allowable for at least the same reasons mentioned above with respect to claim 1. Accordingly, Applicant respectfully requests that the above rejection be withdrawn.

Finally, the Examiner fails to establish a prima facie case of obviousness as none of the art of record teaches or suggests any motivation to combine the teachings of Kitayama with Miyazaki. The mere fact that references might be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of such a combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990). None of the art of record details any motivation to combine the teachings of Kitayama with Miyazaki. Accordingly, no prima facie case of obviousness has been established and the rejection should be withdrawn.

IV. Conclusion

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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